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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/650,626 | 08/28/2003 | Elliott K. Stava | LEEE2 12301-1-1 | 7514 |
| 7590 | 03/12/2004 | | EXAMINER | |
| ROBERT V. VICKERS FAY, SHARPE, FAGAN, MINNICH & McKEE Seventh Floor 1100 Superior Avenue Cleveland, OH 44114-2579 | | | SHAW, CLIFFORD C | |
| | | ART UNIT | PAPER NUMBER | |
| | | 1725 | | |
| DATE MAILED: 03/12/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|--------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/650,626 | STAVA ET AL. |
| | Examiner | Art Unit |
| | Clifford C Shaw | 1725 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 82-136 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) 82-116 is/are allowed.
- 6) Claim(s) 117,118,120-126,128-132 and 134-136 is/are rejected.
- 7) Claim(s) 119,127 and 133 is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
 - Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 - Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0828 and 1103.

- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: ____.

Detailed Action

1.) Applicant is advised that the Terminal Disclaimer he filed on 8/28/2003 has been approved.

2.) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3.) Claims 117, 118, 120-126, 128-132, and 134-136 are rejected under 35 U.S.C. 103(a) as being unpatentable over the German document no. DE3735834 taken with either one of Gowan (3,420,979) or Endo et al. (3,627,978). The English abstracts and the waveforms shown in figure 1 of German document no. DE3735834 disclose certain of the subject matter claimed including: passing first and second waveforms through first and second electrodes labeled “1.Elektrode” and 2.Elektrode” in figure 1, wherein the waveforms are at least partially synchronized to cause welding currents to pass through the electrodes at least partially at the same time as per claim 117, at least partially offsetting the waveforms by a controlled length of time, this offset due to their different frequencies as per claim 125, and at least partially controlling the polarities of the different waveforms due to their different frequencies as per claim 130. In regard to claims 122, 129, and 136, note that the first and second waveforms in the German document no. DE3735834 are “substantially” the same in that they are both square waves. The claims differ from the German document no. DE3735834 in calling for moving the

welding electrodes in unison along the weld joint. This difference does not patentably distinguish over the prior art. Although the German document no. DE3735834 does not explicitly mention electrode/workpiece movement, there must be some type of relative motion between the electrode and workpiece in German document no. DE3735834 in order to weld along a seam as would be present in a workpiece welded by the German arrangement. At the time applicant's invention was made, it would have been obvious to have implemented this relative motion by moving the electrodes along the joint, the motivation being the teachings of either one of Gowan (3,420,979) or Endo et al. (3,627,978) that it is advantageous to move plural submerged arc welding electrodes along a joint to be welded (see elements 1-3 and the discussion thereof in Gowan (3,420,979) and see figure 34 and the motion element 43 and the further discussion in columns 7-8 of Endo et al. (3,627,978)).

4.) Claims 119, 127, and 133 are objected to for depending from rejected claims, but would be given favorable consideration if recast in independent form to include all of the limitations of the parent claims. None of the prior art of record teaches or suggests the particular frequency and wave shaper limitations in the claims combined with the other features of the parent claims.

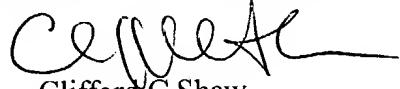
5.) Claims 82-116 are allowable over the prior art of record. None of the prior art of record teaches or suggests the method of welding set forth in claim 82 with the particular frequency deviation step set forth in step (d) combined with the other steps in the claim. The

other claims are allowable at least because they directly depend or ultimately depend from claim 82.

Any inquiry concerning this communication should be directed to Clifford C Shaw at telephone number 571-272-1182. The examiner can normally be reached on Monday through Friday of the first week of the pay period and on Tuesday through Friday of the second week of the pay period.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas G. Dunn, can be reached at 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Clifford C Shaw
Primary Examiner
Art Unit 1725

March 5, 2004